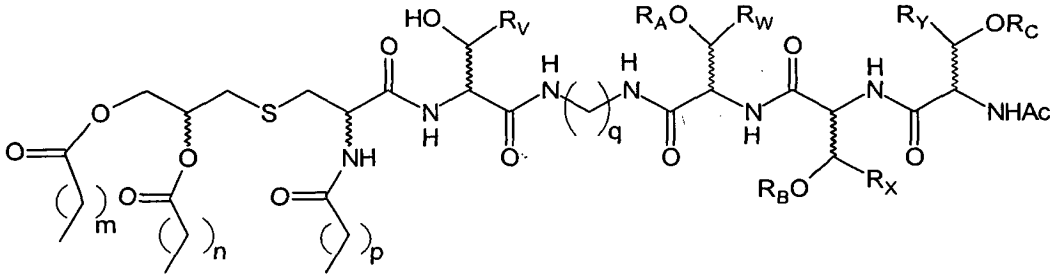
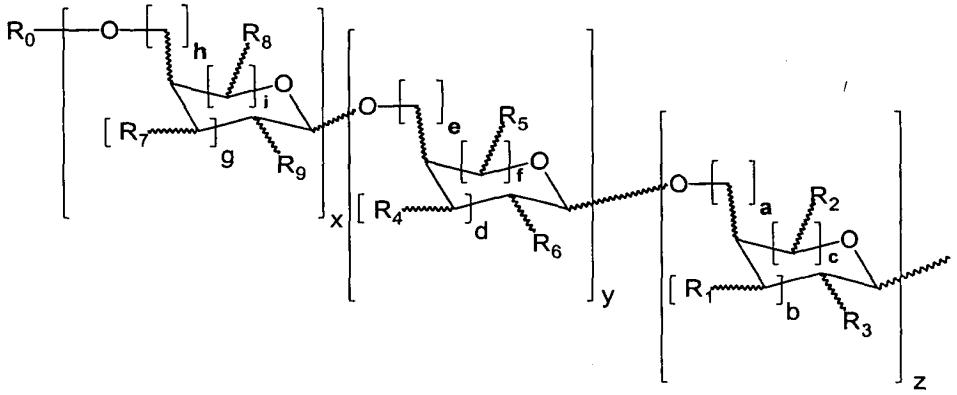
What Is Claimed Is:

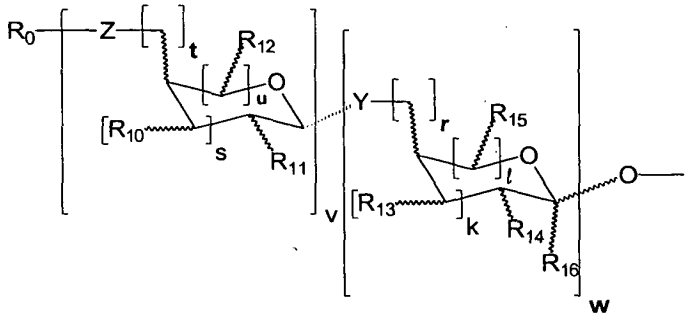
1. A glycoconjugate having the structure:



wherein *m*, *n* and *p* are integers between about 8 and about 20; wherein *q* is an integer between about 1 and about 8; wherein R_V, R_W, R_X and R_Y are independently hydrogen, optionally substituted linear or branched chain lower alkyl or optionally substituted phenyl; wherein R_A, R_B and R_C are independently a carbohydrate domain having the structure:



wherein *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*, *x*, *y* and *z* are independently 0, 1, 2 or 3; wherein R_0 is hydrogen, linear or branched chain lower alkyl, acyl, arylalkyl or aryl group; wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8 and R_9 are each independently hydrogen, OH, OR^i, NH_2, $NHCOR^i$, F, CH_2OH, CH_2OR^i, an optionally substituted linear or branched chain lower alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein R^i is hydrogen, CHO, $COOR^{ii}$, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein *k, l, r, s, t, u, v* and *w* are each independently 0, 1 or 2; wherein R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} are each independently hydrogen, OH, OR^{iii}, NH_2, $NHCOR^{iii}$, F, CH_2OH, CH_2OR^{iii}, or an optionally substituted linear or branched chain lower alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, optionally substituted linear or branched chain lower alkyl or aryl group; wherein R^{iii} is hydrogen, CHO, $COOR^{iv}$, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group; and wherein R^{ii} and R^{iv} are each independently hydrogen, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group.

2. The glycoconjugate of claim 1 wherein R_V, R_W, R_X and R_Y are methyl.

3. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently monosaccharides or disaccharides.

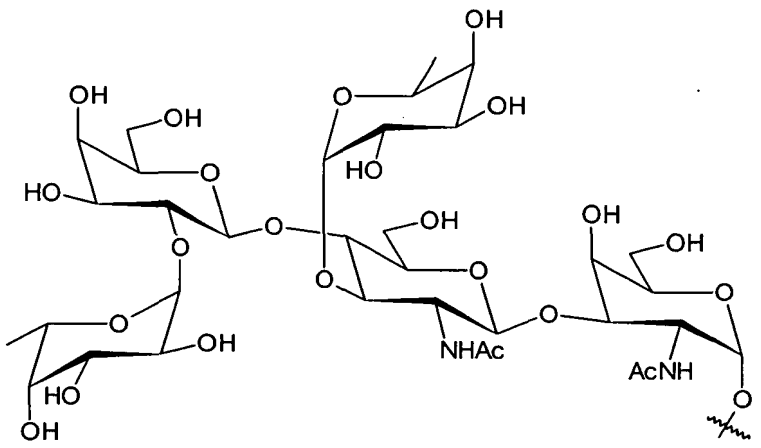
4. The glycoconjugate of claim 3 wherein *y* and *z* are 0; wherein *x* is 1; and wherein R_3 is NHAc.

5. The glycoconjugate of claim 1 wherein *h* is 0; wherein *g* and *i* are 1; wherein R_7 is OH; wherein R_0 is hydrogen; and wherein R_8 is hydroxymethyl.

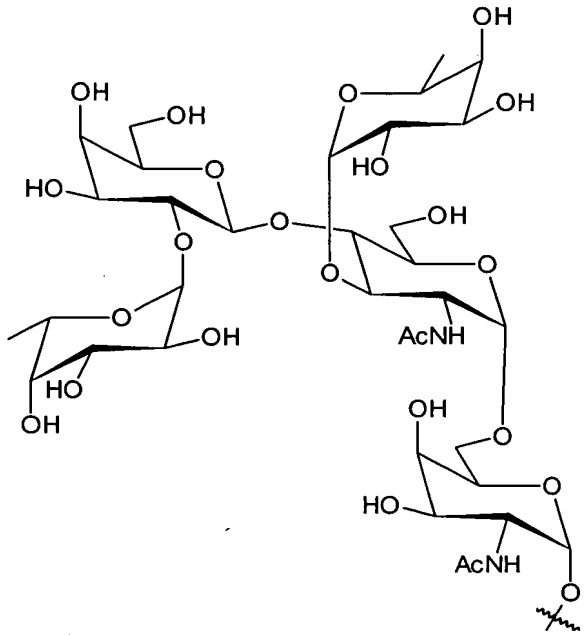
6. The glycoconjugate of claim 1 wherein *m, n* and *p* are 14; and wherein q is 3.

7. The glycoconjugate of claim 1 wherein each amino acyl residue therein has an L-configuration.

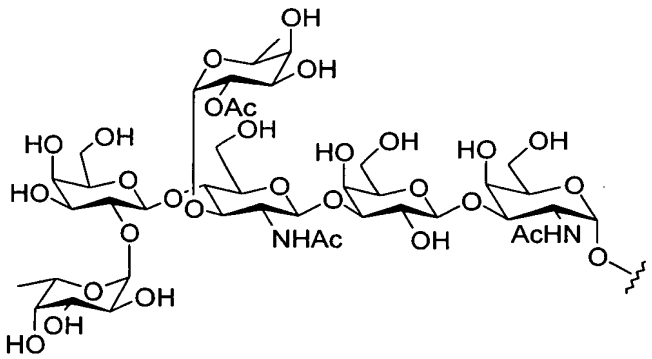
8. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently



9. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently

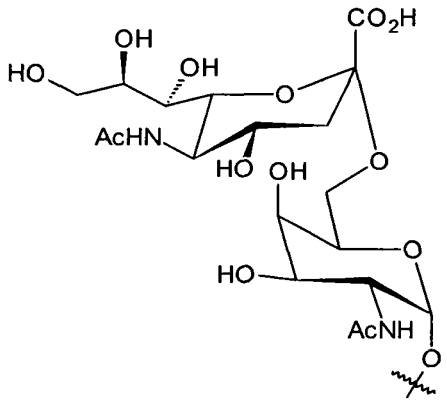


10. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently

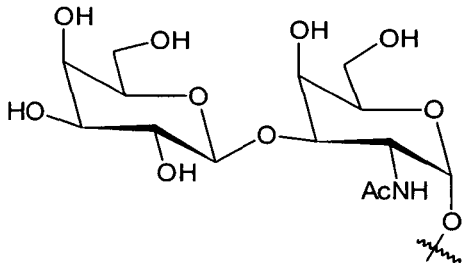


11. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently

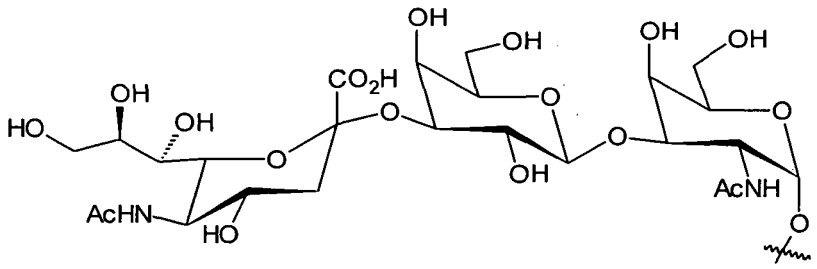
12



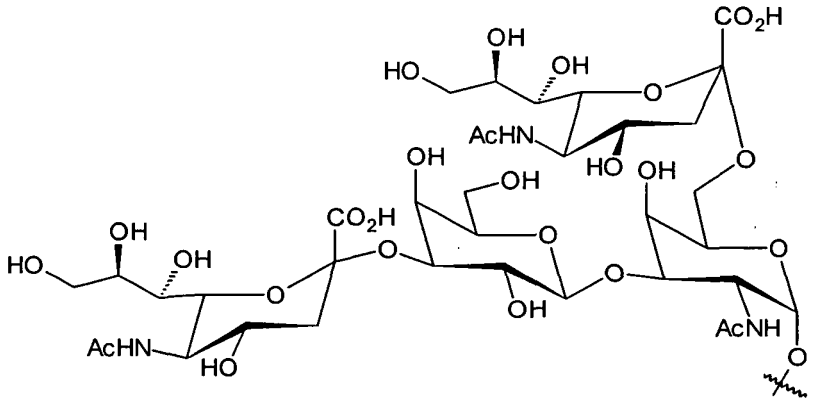
1 12. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently



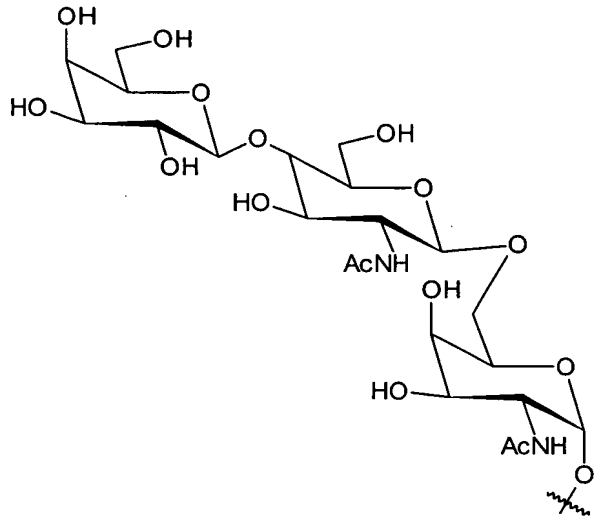
1 13. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently



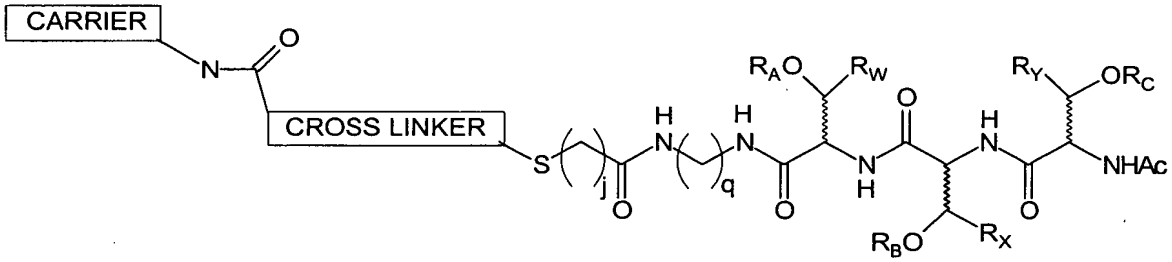
1 14. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently
2



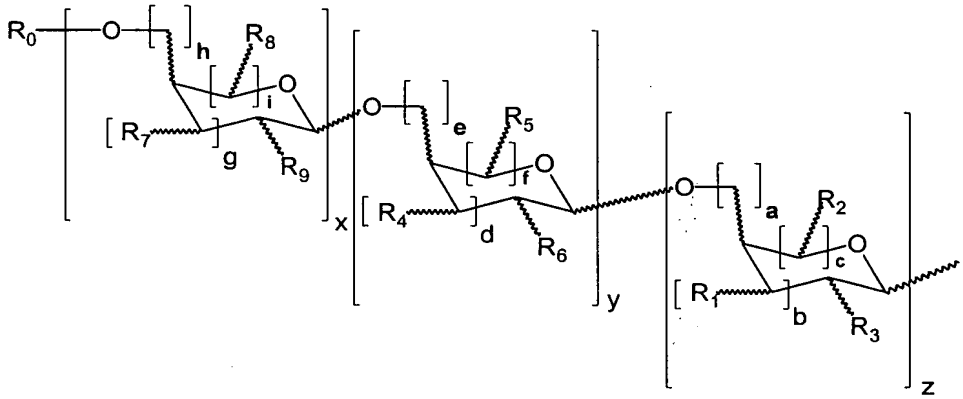
1 15. The glycoconjugate of claim 1 wherein the carbohydrate domains are independently



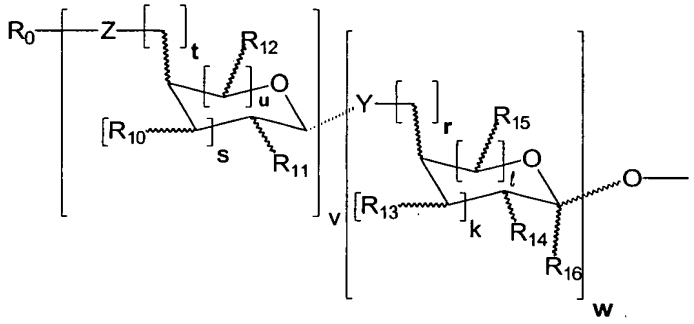
16. A glycoconjugate having the structure:



wherein the carrier is a protein; wherein the cross linker is a moiety derived from a cross linking reagent capable of conjugating a surface amine of the carrier and a thiol; wherein *m, n* and *p* are integers between about 8 and about 20; wherein *j* and *q* are independently integers between about 1 and about 8; wherein R_W, R_X and R_Y are independently hydrogen, optionally substituted linear or branched chain lower alkyl or optionally substituted phenyl; wherein R_A, R_B and R_C are independently a carbohydrate domain having the structure:

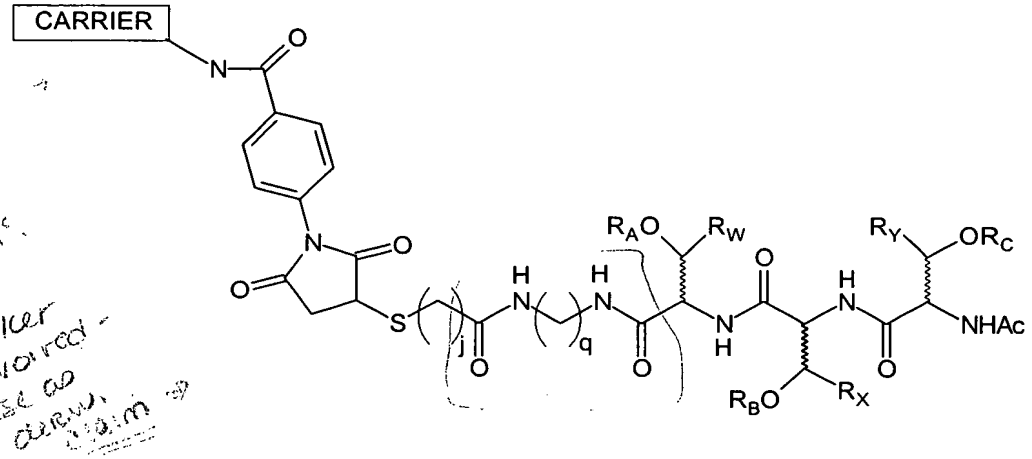


wherein *a, b, c, d, e, f, g, h, i, x, y* and *z* are independently 0, 1, 2 or 3; wherein R_0 is hydrogen, linear or branched chain lower alkyl, acyl, arylalkyl or aryl group; wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8 and R_9 are each independently hydrogen, OH, OR^i, NH_2, $NHCOR^i$, F, CH_2OH, CH_2OR^i, an optionally substituted linear or branched chain lower alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein R^i is hydrogen, CHO, $COOR^{ii}$, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein *k, l, r, s, t, u, v* and *w* are each independently 0, 1 or 2; wherein R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} are each independently hydrogen, OH, OR^{iii}, NH_2, $NHCOR^{iii}$, F, CH_2OH, CH_2OR^{iii}, or an optionally substituted linear or branched chain lower alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, optionally substituted linear or branched chain lower alkyl or aryl group; wherein R^{iii} is hydrogen, CHO, $COOR^{iv}$, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group; and wherein R^{ii} and R^{iv} are each independently hydrogen, or an optionally substituted linear or branched chain lower alkyl, arylalkyl or aryl group.

17. The glycoconjugate of claim 16 having the structure:



18. The glycoconjugate of claim 16 wherein R_W, R_X and R_Y are methyl.

19. The glycoconjugate of claim 16 wherein the carbohydrate domains are monosaccharides or disaccharides.

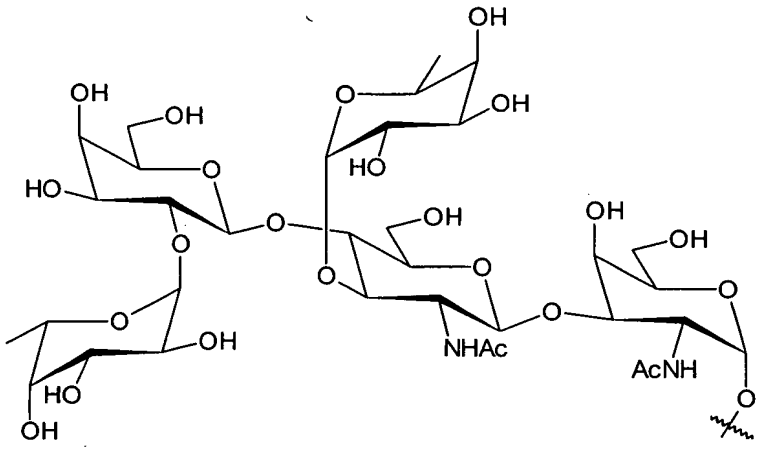
20. The glycoconjugate of claim 19 wherein *y* and *z* are 0; wherein *x* is 1; and wherein R_3 is NHAc.

21. The glycoconjugate of claim 16 wherein *h* is 0; wherein *g* and *i* are 1; wherein R_7 is OH; wherein R_6 is hydrogen; wherein *m, n* and *p* are 14; and wherein q is 3; and wherein R_8 is hydroxymethyl.

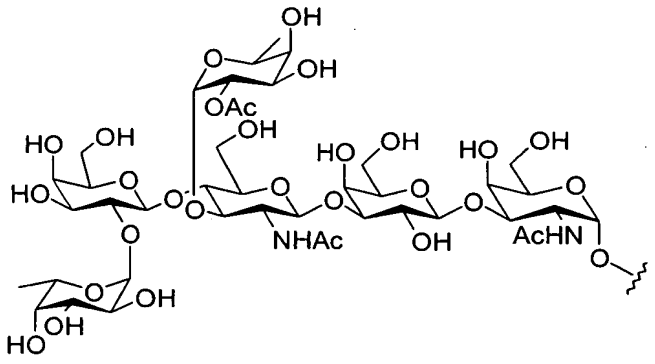
22. The glycoconjugate of claim 16 wherein the protein is BSA or KLH

23. The glycoconjugate of claim 16 wherein each amino acyl residue therein has an L-configuration.

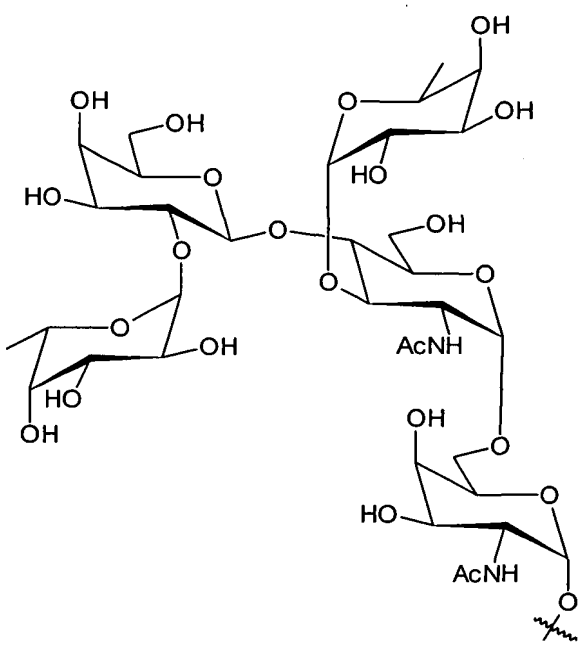
24. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



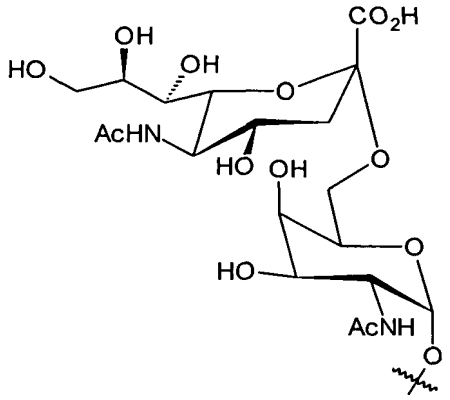
25. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



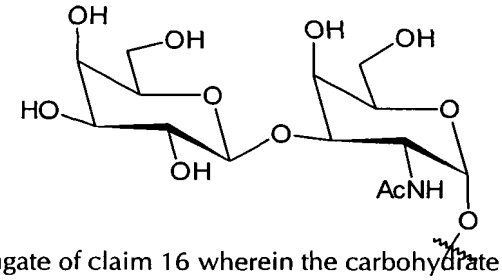
26. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



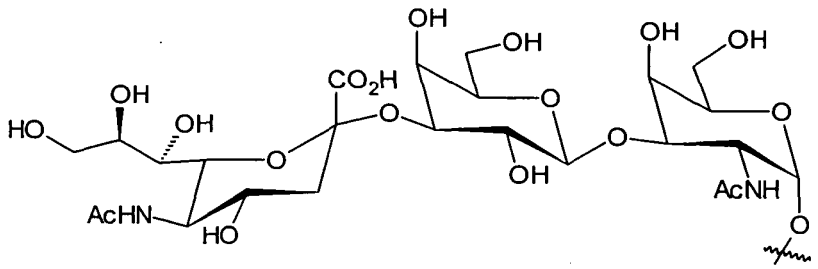
27. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



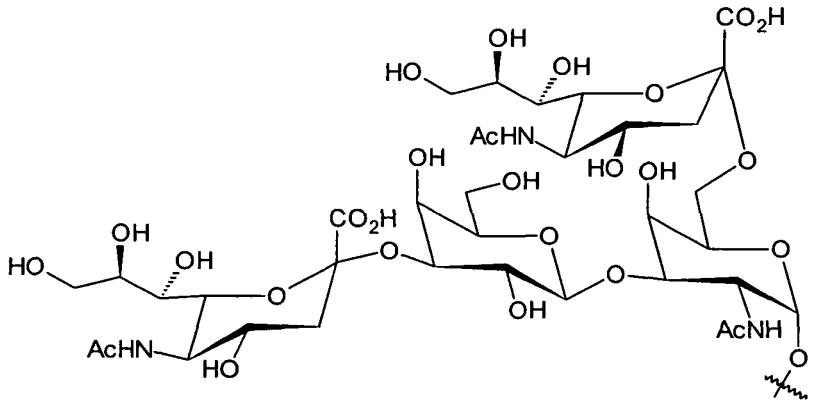
28. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



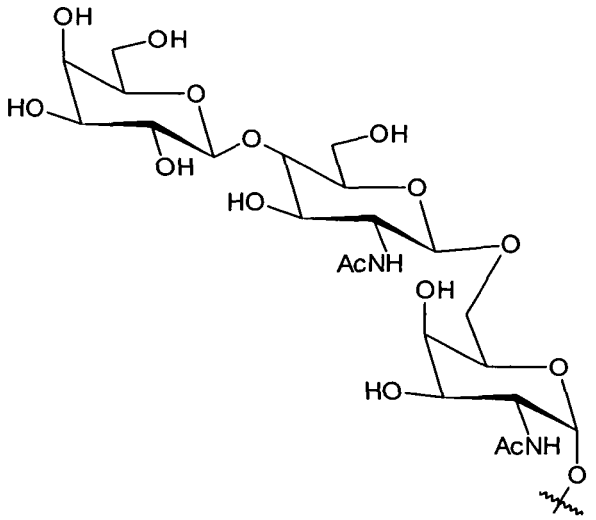
29. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



30. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



31. The glycoconjugate of claim 16 wherein the carbohydrate domains are independently



32. A pharmaceutical composition for treating cancer comprising a glycoconjugate of claim 1 or 16 and a pharmaceutically suitable carrier.

33. A method of treating cancer in a subject suffering therefrom comprising administering to the subject a therapeutically effective amount of a glycoconjugate of claim 1 or 16 and a pharmaceutically suitable carrier.

34. The method of claim 32 wherein the cancer is a solid tumor.

35. The method of claim 32 wherein the cancer is an epithelial cancer.

36. A method of inducing antibodies in a human subject, wherein the antibodies are capable of specifically binding with human tumor cells, which comprises administering to the subject an amount of the glycoconjugate of claim 1 or 16 effective to induce the antibodies.

37. The method of claim 36 wherein the carrier protein is bovine serum albumin, polylysine or KLH.

38. The method of claim 36 which further comprises co-administering an immunological adjuvant.

39. The method of claim 38 wherein the adjuvant is bacteria or liposomes.

40. The method of claim 38 wherein the adjuvant is *Salmonella minnesota* cells, bacille Calmette-Guerin or QS21.

41. The method of claim 36 wherein the antibodies induced are selected from the group consisting of Tn, ST_N, (2,3)ST, glycophorine, 3-Le^y, 6-Le^y, T(TF) and T antibodies.

42. The method of claim 36 wherein the subject is in clinical remission or, where the subject has been treated by surgery, has limited unresected disease.

43. A method of preventing recurrence of epithelial cancer in a subject which comprises vaccinating the subject with the glycoconjugate of claim 1 or 16 which amount is effective to induce antibodies.

44. The method of claim 43 wherein the carrier protein is bovine serum albumin, polylysine or KLH.

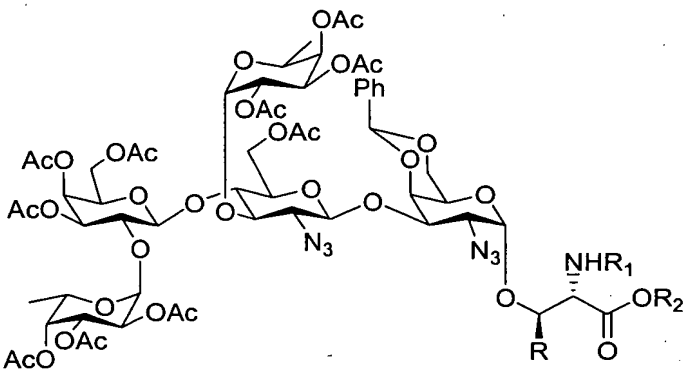
45. The method of claim 43 which further comprises co-administering an immunological adjuvant.

46. The method of claim 45 wherein the adjuvant is bacteria or liposomes.

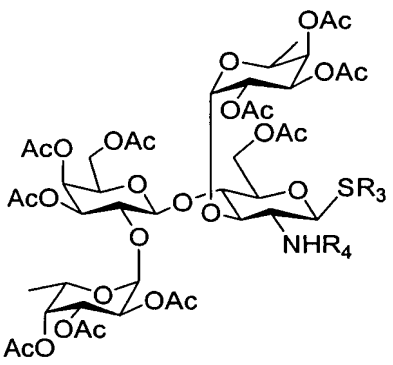
47. The method of claim 45 wherein the adjuvant is *Salmonella minnesota* cells, bacille Calmette-Guerin or QS21.

48. The method of claim 43 wherein the antibodies induced are selected from the group consisting of Tn, ST_N, (2,3)ST, glycophorine, 3-Le^y, 6-Le^y, T(TF) and T antibodies.

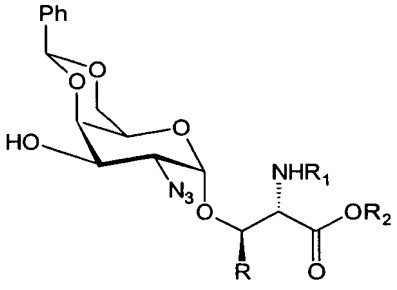
49. A method of preparing a protected O-linked Le^y glycoconjugate having the structure:



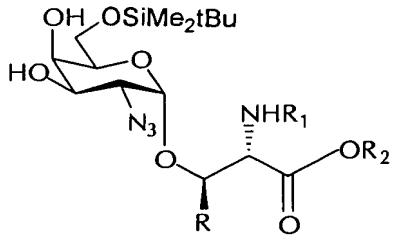
wherein R is hydrogen, linear or branched chain lower alkyl, or optionally substituted aryl; R_1 is t-butyloxycarbonyl, fluorenylmethyleneoxycarbonyl, linear or branched chain lower alkyl or acyl, optionally substituted benzyl or aryl; R_2 is a linear or branched chain lower alkyl, or optionally substituted benzyl or aryl; and R_4 is hydrogen, linear or branched chain lower alkyl or acyl, optionally substituted aryl or benzyl, or optionally substituted aryl sulfonyl; which comprises coupling a tetrasaccharide sulfide having the structure:



wherein R_3 is linear or branched chain lower alkyl or aryl; with an O-linked glycosyl amino acyl component having the structure:

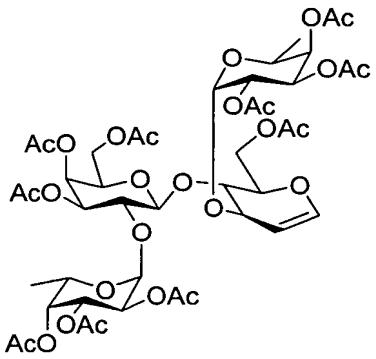


or



under suitable conditions to form the protected O-linked Le^y glycoconjugate.

50. The method of claim 49 wherein the tetrasaccharide sulfide is prepared by (a) halosulfonamidating a tetrasaccharide glycal having the structure:

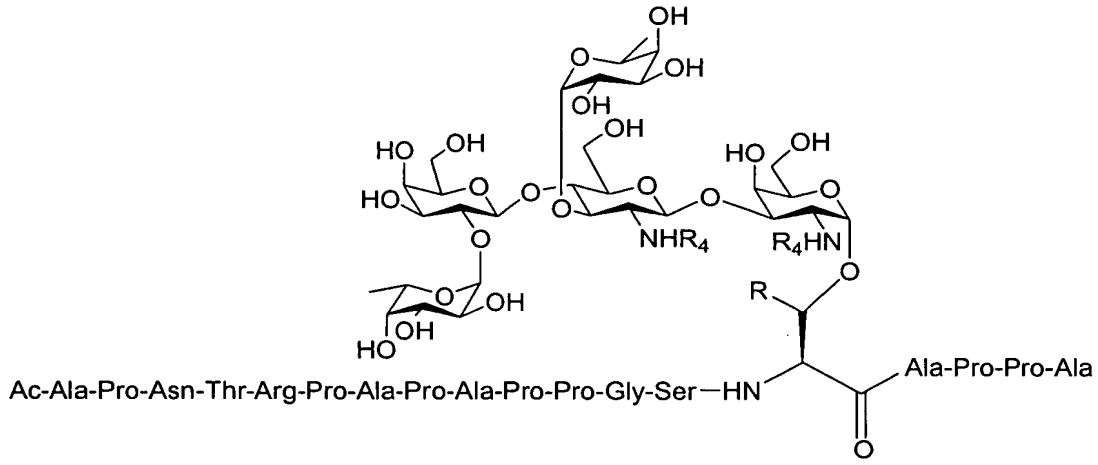


under suitable conditions to form a tetrasaccharide halosulfonamidate; and (b) treating the halosulfonamidate with a mercaptan and a suitable base to form the tetrasaccharide sulfide.

51. The method of claim 50 erein the mercaptan is a linear or branched chain lower alkyl or an aryl; and the base is sodium hydride, lithium hydride, potassium hydride, lithium diethylamide, lithium diisopropylamide, sodium amide, or lithium hexamethyldisilazide.

52. An O-linked glycoconjugate prepared in accord with claim 49.

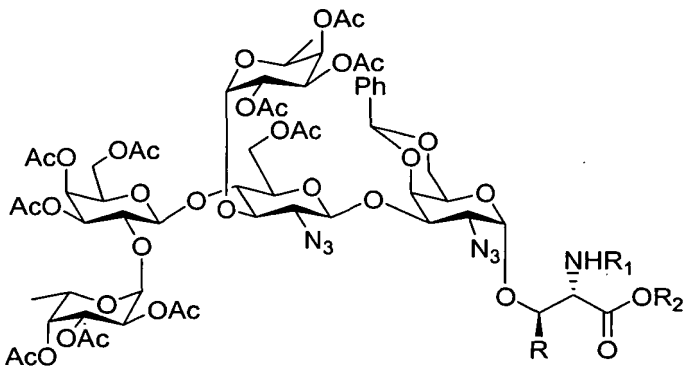
53. A O-linked glycopeptide having the structure:



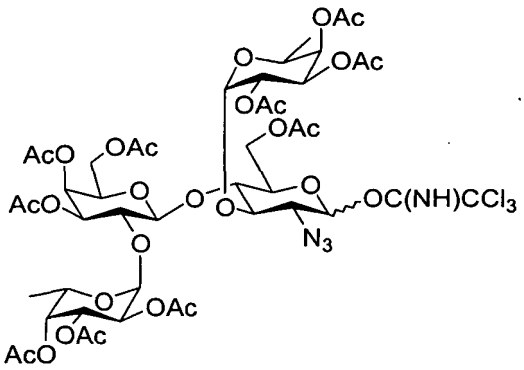
wherein R_4 is a linear or branched chain lower acyl; and wherein R is hydrogen or a linear or branched chain lower alkyl or aryl.

54. The O-linked glycopeptide of claim 52 wherein R_4 is acetyl.

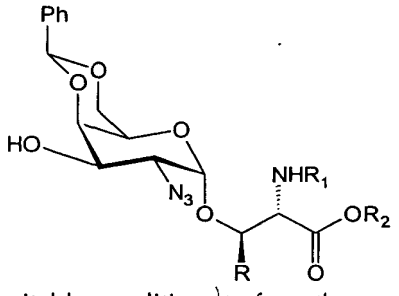
55. A method of preparing a protected O-linked Le^y glycoconjugate having the structure:



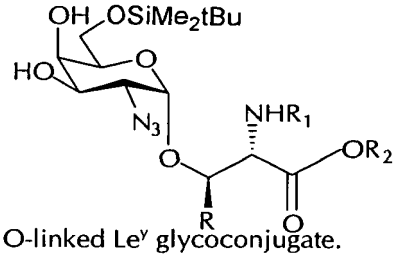
wherein R is hydrogen, linear or branched chain lower alkyl, or optionally substituted aryl; R_1 is t-butyloxycarbonyl, fluorenylmethyleneoxycarbonyl, linear or branched chain lower alkyl or acyl, optionally substituted benzyl or aryl; and R_2 is a linear or branched chain lower alkyl, or optionally substituted benzyl or aryl; which comprises coupling a tetrasaccharide azidoimidate having the structure:



with an O-linked glycosyl amino acyl component having the structure:



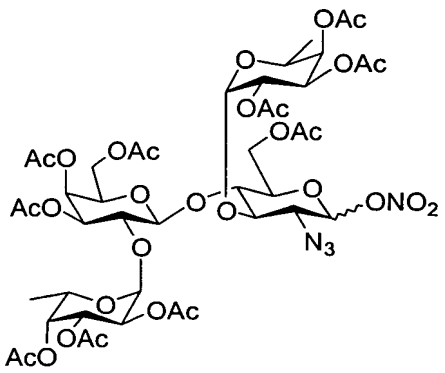
or



under suitable conditions to form the protected O-linked Le^y glycoconjugate.

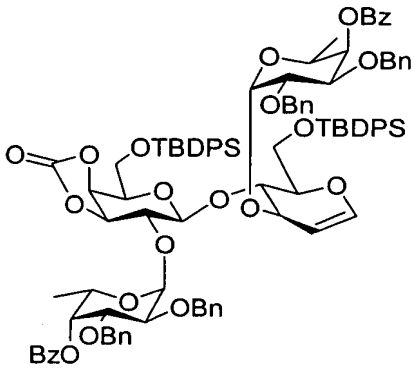
56. The method of claim 54 wherein the tetrasaccharide azidoimidate is prepared by (a) treating

tetrasaccharide azidonitrate having the structure:

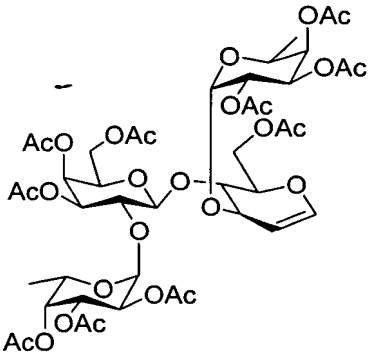


under suitable conditions to form an azido alcohol; and (b) reacting the azido alcohol with an imidoacylating reagent under suitable conditions to form the azidoimidate.

57. The method of claim 56 wherein the tetrasaccharide azido nitrate is prepared by (a) converting a tetrasaccharide glycal having the structure:



under suitable conditions to a peracetylated tetrasaccharide glycal having the structure:



and (b) azidonitrating the glycal formed in step (a) under suitable conditions to form the tetrasaccharide azido nitrate.

58. The method of claim 57 wherein step (b) is effected using cerium ammonium nitrate in the

presence of an azide salt selected from the group consisting of sodium azide, lithium azide, potassium azide, tetramethylammonium azide and tetraethylammonium azide.

58. An O-linked glycoconjugate prepared in accord with claim 54.